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EXAMINER

CHEUNG, WILLIAM K

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1713

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/799,056
Filing Date: March 12, 2004
Appellant(s): LEE ET AL.

MAILED
JUL 12 2007
GROUP 1700

Mark D. Kuller
(Registration No. 31,925)
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed January 16, 2007 appealing from the Office action mailed August 15, 2006.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,770,654	Blatz	6-1998
3,419,517	Hedrick et al.	12-1968

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(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blatz (US 5,770,654) in view of Hedrick et al. (US 3,419,517).

The invention of claims 1-21 relates to a thermoplastic polyamide composition comprising: (a) from about 5 to about 30 weight percent of a free-flowing toughener comprising from about 20 weight percent to about 95 weight percent polyvinyl butyral; (b) 95 to 25 weight percent polyamide that is melt

processable below about 320°C and which has a number average molecular weight of at least 5,000; (c) a mineral filler in an amount of from about 10 to about 45 weight percent of the total composition; and (d) optionally a coupling agent.

The entire disclosure of Blatz (abstract; col. 3, line 10-57) discloses thermoplastic polyamide composition comprising 50-90 weight percent of polyamide melt-processable below 320 °C (abstract) having a number average molecular weight of at least 5,000 (col. 2, line 19), and 10-50 weight percent of plasticized polyvinyl butyral (toughener) (abstract). Blatz (col. 3, line 17-30) clearly teaches a plasticized polyvinyl butyral comprising an anhydride. The disclosed composition also comprises an olefin-type copolymer (col. 3, line 32-43). Regarding claims 8-9, Blatz (col. 1, line 25-35) clearly discloses using the disclosed composition in automotive related articles. Regarding claim 21, Blatz (col. 3, line 17-30) clearly teaches a polyvinyl butyral comprising an anhydride.

The difference between the invention of claims 1-21 and Blatz is that Blatz is silent on a thermoplastic polyamide composition comprising a mineral filler in amount of from about 10 to about 45 weight percent of the total composition. Further, Blatz is also silent on a composition comprising a coupling agent.

Hedrick et al. (col. 4, line 34-66) teach incorporating less than 50 weight percent of fillers into a polyamide composition. The listed fillers in Hedrick et al. are substantially

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identical to the fillers as claimed. Hedrick et al. (col. 19, line 61-64) also teach using 0.3 weight percent of silane coupling agent along with the use of fillers in the disclosed polyamide composition. Therefore, motivated by the expectation of success of improving the strength of a polyamide composition (col. 2, line 36-41), it would have been obvious to one of ordinary skill in art to use the filler teachings and the coupling agent teachings in Hedrick et al. into the polyamide composition of Blatz to obtain the invention of claims 1-21.

(10) Response to Argument

Appellant's arguments filed January 16, 2007 have been fully considered but they are not persuasive. Appellants argue that the references of Blatz and Hedrick et al. are not combinable for the following reasons.

(1) Appellants argue that Blatz describes polyamide compositions with the recitation "consist essentially of plasticized butyral and polyamide", which do not include any filler. Therefore, appellants believe that Blatz teaches away from the claimed invention. However, the examiner disagrees because although Blatz teaches polyamide compositions with the recitation "consist essentially of plasticized butyral and polyamide", there is no teaching that discourage one of ordinary skill in art to exclude a filler. Contrary to appellants' argument, Blatz (col. 2, line 21) clearly teaches that pigments (which can be a filler) can be incorporated into the polymeric composition of Blatz. Regarding appellants' argument that the incorporation of fillers into the

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composition of Blatz is exclude because fillers would affect the basic properties of Blatz, appellants fail to recognize that Blatz is silent on what is considered a basic property. In addition, Blatz (col. 2, line 21-23) clearly disclose that plasticizers, light stabilizers, antioxidants, and pigments that would impact some of the properties of the composition disclosed in Blatz. Therefore, in view of the fact that there is no negative teachings on the use of fillers or pigments in Blatz, Blatz does not teach one of ordinary skill in art away from incorporating a filler.

Furthermore, appellants must recognize that the recitation "consisting essentially of" in Blatz, regardless how times it is recited, is still merely to narrow the scope of the teachings to properly defined its scope of invention, maybe due to another prior art's teachings. However, narrowing the scope of the invention of Blatz does not deter one of ordinary skill from leaning, make/use of the broad or non-preferable teachings of Blatz.

Regarding appellants' argument that Blatz was filed after Hedrick, so clearly Blatz would have had the knowledge of Hedrick available to exclude the use of fillers, appellants fail to recognize that the examination on the patentability of instant application does not concern which of the references filed first or whether Blatz wants to exclude the filler or not, but to determine whether the two references of Blatz and Hedrick are available at the same time for the determination of patentability of instant application.

(2) Appellants argue that there is no indication in Hedrick that filler of Hedrick would be compatible with the composition of Blatz. However, appellants fail to recognize

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that Hedrick also teach a filler that has been incorporated with a silane coupling agent. In view of substantially identical polymeric system, there is no reasons why the silane coupling agent would not work when the filler is incorporated into the composition of Blatz. Furthermore, appellants claims do not support the argument on compatibility, because the claims as written do not exclude fillers that that incompatible to the polymers.

(3) Appellants argue that claimed invention provides an unexpected balance of both strength, as demonstrated by flexural modulus (stiffness), and impact, as demonstrated by notched Izod impact properties. However, appellants fail to recognize that it is well known and true to all inorganic fillers that the incorporation of inorganic fillers would increase the flexural modulus or the stiffness properties of a polymeric system and decrease the notched Izod impact toughness properties. Therefore the examiner believes that the argued unexpected in flexural strength and notched Izod impact properties are actually "expected".

Regarding the argued "notch Izod impact properties" that it does not decrease as much as compared to the general trend in the literature for nylon 6 and nylon 66, appellants fail to recognize that the material system as claimed is different from the nylon 6 and nylon 66 being argued. Most of all, appellants do not have any evidence that the literature values for the nylon 6 and nylon 66 are compositionally identical in terms of additives, plasticizers, and stabilizers.

Further, regarding the nylon samples listed in the appeal brief (page 10), basically all mineral filled nylon samples have improved flexural properties and degraded notched Izod impact properties as compared to their unfilled nylon samples. Similar trends can also be seen with the Zytel nylon 6,6 samples as well in the same table, where the flexural modulus has improved with fillers and the notched Izod properties has decreased with fillers. Therefore, the table affirms the examiner's belief that it is well known in the art of polymer composite industry that the incorporation of fillers would increase stiffness properties and decrease notched Izod impact properties.

Again, appellants argue that the combination of the references of Blatz and Hedrick is a result of hindsight after reading appellants' disclosure. However, in response to appellant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the appellant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

For the reasons set forth above, the examiner has a reasonable basis to maintain the rejection set forth.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.




Respectfully submitted,

William K. Cheung, Ph. D.

**WILLIAM K. CHEUNG
PRIMARY EXAMINER**

Conferees:



David Wu



Greg Mills